

Claims

1. Two-dimensional antenna array with the following features:

- there are at least two vertically running gaps (5; 5a, 5b, 5c, 5d),
- there are overall at least two and preferably at least three radiators or radiator groups (9; 109a, 109b, 109c, 109d) offset to one another in the vertical direction in one gap (5; 5a, 5b, 5c, 5d) and preferably in all gaps (5; 5a, 5b, 5c, 5d),
- in at least one gap (5; 5a, 5b, 5c, 5d) the arrangement is such that the radiators or radiator groups (9) in this at least one gap (5; 5a, 5b, 5c, 5d) except for at least one radiator or at least one radiator group (109a, 109b, 109c, 109d) are jointly supplied, and
- this at least one radiator or at least one radiator group (109a, 109b, 109c, 109d) is supplied jointly with the radiators or radiator groups (9) of an adjacent gap (5; 5a, 5b, 5c, 5d).

2. Antenna array as claimed in claim 1, wherein the respectively jointly supplied radiators or radiator groups (9) are arranged such that even at a given horizontal offset the vertical distance is the same.

3. Antenna array as claimed in claim 1 or 2, wherein the respectively jointly supplied radiators or radiator groups (9; 109a, 109b, 109c, 109d) are arranged offset to one another in the vertical direction such that the vertical distance between two radiators or radiator groups (9; 109a, 109b, 109c, 109d) which are vertically offset to one another or the vertical distance of the radiators or radiator groups (9; 109a, 109b, 109c, 109d) which are located horizontally at different heights is the same or similar for most of the radiators or radiator groups (9; 109a, 109b, 109c, 109d).

4. Antenna array as claimed in claim 3, wherein the respectively jointly supplied radiators or

radiator groups (9; 109a, 109b, 109c, 109d) are arranged offset to one another in the vertical direction such that the vertical distance between two radiators or radiator groups (9; 109a, 109b, 109c, 109d) which are vertically offset to one another or the vertical distance of the radiators or radiator groups (9; 109a, 109b, 109c, 109d) located horizontally at different heights is the same or similar for all of the radiators or radiator groups (9; 109a, 109b, 109c, 109d).

5. Antenna array as claimed in one of claims 1 to 4, wherein the radiators or radiator groups (9; 109a, 109b, 109c, 109d) are located in pairs on a common vertical line in at least two gaps (5; 5a; 5b).

6. Antenna array as claimed in one of claims 1 to 5, wherein the respectively jointly supplied radiators or radiator groups (9; 109a, 109b, 109c, 109d) are located at a regular vertical distance on top of one another and at least one radiator or at least one radiator group (109a, 109b, 109c, 109d) is located simply with a horizontal offset to the other jointly supplied radiators or radiator groups (9) in an adjacent gap (5; 5a, 5b, 5c, 5d).

7. Antenna array as claimed in one of claims 1 to 6, wherein in at least two gaps (5; 5a, 5b, 5c, 5d) the radiators or radiator groups (9; 109a, 109b, 109c, 109d) are located at a regular vertical distance to one another and in the same vertical position in pairs, in at least two gaps (5; 5a, 5b, 5c, 5d) there being at least one pair of two radiators or two radiator groups (109a, 109b, 109c, 109d) such that the radiators or radiator groups (9; 109a, 109b, 109c, 109d) which are jointly supplied and located in one gap (5; 5a, 5b, 5c, 5d) are jointly supplied with at least one radiator or at least one radiator group (109a, 109b, 109c, 109d) of the adjacent gap (5; 5a, 5b, 5c, 5d).